

## ABSTRACT

Disclosed herein is a resource allocation method for providing load balancing and fairness for a dual ring. The resource allocation method includes the step of determining whether a bandwidth allocation request message is received from one of other nodes. If the bandwidth allocation request message is received, it is determined whether one or more of two rings of the dual ring fulfill a request of the bandwidth allocation request message. If the rings fulfill the request, a path is allocated to one of the rings having a lower weighted cost. A resource allocation information notification message is provided to other nodes. If the rings cannot fulfill the request, the process ends.

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